

Name _____ Date _____ Hour _____

Chapter 9 PRACTICE TEST

9.1 Evaluate and approximate square roots

Evaluate each expression. Give ALL possible solutions. Round answers to the nearest hundredth. (2pts. Each)

1) $\sqrt{36}$

2) $-\sqrt{18}$

3) $\sqrt{-0.09}$

Solve each equation. Give ALL possible solutions. Leave in radical form if the answer is not an integer. (3pts. Each)

4) $8x^2 - 968 = 0$

5) $3x^2 - 78 = 114$

6) $4x^2 = -32$

7) $6x^2 + 4 = 28$

9.2 Simplifying Expressions

Simplify each expression. Write answers as an integer or keep in radical form. (3pts. Each)

8) $6\sqrt{3x^7y^4} \cdot 3\sqrt{4x^6y^5}$

9) $\sqrt{\frac{16x^4y}{3y}}$

10) $\sqrt{8} \cdot \sqrt{\frac{40}{2}}$

11) $\frac{10 \cdot \sqrt{8}}{\sqrt{16}}$

Simplify each expression. Write answers as an integer or keep in radical form. (3pts. Each)

12) $\sqrt{16x^5y^4}$

13) $2\sqrt{2a^6} \cdot 5\sqrt{3a^3c^5}$

9.3 Graph quadratic equations

State whether each function opens up or down and find the vertex. (3pts. Each) (1 pt. for up/down, 2pts. Vertex)

14) $y = x^2 - 2x + 1$

15) $y = -2x^2 - 8x + 20$

16) $y = -x^2 - 2x + 3$

Opens: _____

Opens: _____

Opens: _____

Vertex _____

Vertex _____

Vertex _____

17) $12x = 3x^2 - 2$

18) $x^2 = 4x - 2$

Opens: _____

Opens: _____

Vertex _____

Vertex _____

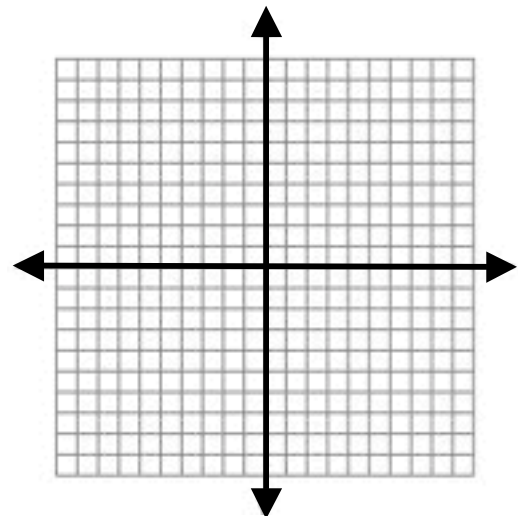
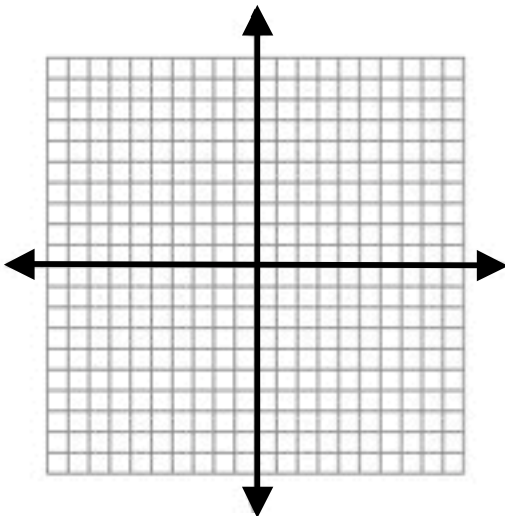
Graph each function. You must show four ordered pairs plus the vertex in a table. Label the vertex. (8pts. Each)
 (2pts. For vertex, 1pt. for each of the 4 ordered pairs, and 2pts. For graphing)

19) $y = \frac{1}{2}x^2 - 4x + 1$

X	Y

20) $y = x^2 - 4$

X	Y



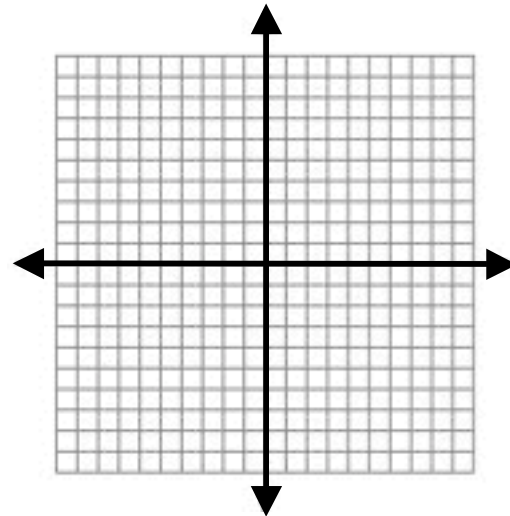
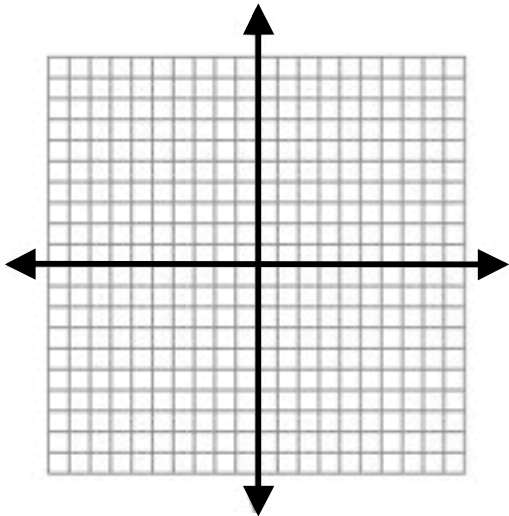
Graph each function. You must show four ordered pairs plus the vertex in a table. Label the vertex. (8pts. Each)
 (2pts. For vertex, 1pt. for each of the 4 ordered pairs, and 2pts. For graphing)

21) $y = x^2 - 2x + 6$

X	Y

22) $y = -2x^2 + 4x - 1$

X	Y



9.5 Use the quadratic formula to solve a quadratic equation

Use the quadratic formula to solve each problem. Round answers to the nearest hundredth if necessary. (4pts. Each)

23) $2x^2 + 3x - 2 = 0$

24) $0 = 4c^2 + 3c - 1$

25) $8x^2 - 5x = 2$

26) $-5x^2 + 2 = -4x$

27) Explain what you find out about the graph of a parabola when you solve a quadratic equation. Write answers in complete sentences. (4pts.)

9.6 Finding the discriminant to find the number of solutions of a quadratic equation

Tell if the equation has two, one, or no solutions. (2pts. Each)

28) $-2x^2 + 5x + 3 = 0$

29) $x^2 + 2x + 6 = 0$

30) $-25x^2 + 10x - 1 = 0$